

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1           1. (Original) A method of optically routing packets, comprising the steps  
2 of:  
3           a first step of impressing onto a silica optical fiber packet signaling  
4 information for a first packet on a signaling optical signal having a signaling  
5 wavelength within a first silica fiber band;  
6           a second step of impressing onto said silica optical fiber a data payload for  
7 said first packet on a first optical signal having a first wavelength within a  
8 different second silica fiber band;  
9           detecting from said silica optical fiber said signaling optical signal; and  
10          based upon said detecting spatially switching said first optical signal  
11 without converting it to electrical form.

1           2. (Original) The method of Claim 1, further comprising:  
2           a third step of impressing onto said silica optical fiber packet signaling  
3 information for a second packet on a second optical signal having said signaling  
4 wavelength;  
5           a fourth step of impressing onto said silica optical fiber a data payload for  
6 said second packet on a second optical signal having a second wavelength  
7 different from said first wavelength within said second silica fiber band; and  
8           based upon said detecting step spatially switching said second optical  
9 signal without converting it to electrical form.

1           3. (Original) The method of Claim 2, wherein said first and third  
2     impressing steps include impressing first and second RF signals upon said second  
3     optical signal.

1           4. (Original) A method of optically routing packets, comprising the steps  
2     of:  
3             at a first time, impressing onto an optical transmission path packet signal  
4     information for a first packet on a first optical signal having a first wavelength;  
5             at a second time later than said first time by a predetermined time  
6     difference, impressing onto said optical transmission path a data payload for said  
7     first packet on a second optical signal having a different second wavelength;  
8             detecting from said optical transmission path said first optical signal;  
9             processing said detected first optical signal to determine a switching path,  
10    wherein said processing may be performed within a time period of no more than  
11    said time difference; and  
12             switching said second optical signal according said determined switching  
13    path without converting it to electrical form.

1           5. (Original) The method of Claim 4, wherein said first and second  
2     wavelengths are different silica transmission bands.

1           6. (Original) The method of Claim 4, wherein said first and second  
2     wavelengths are in a same silica transmission band.

1           7. (Original) A method of optically routing packets, comprising the steps  
2     of:  
3             a first step of impressing upon an optical transmission path a multi-  
4     wavelength signal comprising a plurality of optical data channels of different first

5 optical wavelengths, each of said channels carrying a sequence of packet  
6 payloads;  
7 a second step of impressing upon said optical transmission path an optical  
8 control signal containing directional information for switching of all of said  
9 packet payloads and carried at a second optical wavelength different from said  
10 first optical wavelengths;  
11 detecting from said optical transmission path said optical control signal;  
12 and  
13 based upon said directional information, switching said packet payloads in  
14 different spatial directions without converting said multi-wavelength signal to  
15 electronic form.

1 8. (Original) The method of Claim 7, wherein said first impressing step  
2 comprises impressing a plurality of electrical subcarrier signals upon said first  
3 optical signal.

1 9. (Original) The method of Claim 7, wherein said first optical  
2 wavelengths are in a first transmission band of a silica fiber and said second  
3 optical wavelength is in a second transmission band of said silica fiber other than  
4 said first transmission band.

1 10. (Original) The method of Claim 7, wherein said first and second  
2 optical wavelengths are within a single transmission band of a silica fiber.

1 11. (Original) The method of Claim 7, further comprising delaying said  
2 multi-wavelength signal prior to said switching step without similarly delaying  
3 said optical control signal.

1           12. (Original) An optical packet switching method, comprising:  
2           detecting a label portion of a packet impressed as an optical control signal  
3           on an optical transmission path at a first optical wavelength;  
4           processing said detected optical control signal to determine a switching  
5           path for said pack; and  
6           based upon said switching path switching a data portion of said packet  
7           impressed on a selected one of a plurality of optical data channels of different  
8           second optical wavelengths impressed on said optical transmission path without  
9           converting said packet data portion to electronic form, wherein said second optical  
10          wavelengths are different from said first optical wavelength.

1           13. (Original) The method of Claim 12, wherein said transmission path  
2          comprises silica fiber.

1           14. (Original) The method of Claim 13, wherein said first optical  
2          wavelength is included within a first transmission band of said silica fiber and  
3          said second optical wavelengths are included within a different, second optical  
4          band of said silica fiber.

1           15. (Original) An optical packet transmission method, comprising:  
2           impressing upon an optical transmission path a plurality of data portions of  
3           a plurality of packets at selected ones of a plurality of first optical wavelengths;  
4           and  
5           impressing upon said optical transmission path a plurality of label portions  
6           of said plurality of packets at a second optical wavelength different from said first  
7           wavelengths.

1           16. (Original) The system of Claim 15, wherein said optical transmission

2 comprises a silica fiber.

1 17. (Original) The system of Claim 16, wherein said first optical  
2 wavelengths are within a first transmission band of said silica fiber and said  
3 second optical wavelengths is within a different, second transmission band of said  
4 silica fiber.

1 18-20 (Canceled).